isolating said polypeptide from said second preparation so that said polypeptide is obtained in substantially pure form, wherein the polypeptide comprises an amino acid sequence of human autotaxin having phosphodiesterase activity and cell motility-stimulating activity, wherein the polypeptide comprises the amino acid sequence N-Tyr-Met-Arg-Pro-Val-Tyr-Pro-Thr-Lys-Thr-Phe-Pro-Asn-C, residues 201 through 213 of SEQ ID NO: 69.

~~26~~. 3 (twice amended) An isolated polypeptide comprising an amino acid sequence of human autotaxin having phosphodiesterase activity and cell motility-stimulating activity, wherein the polypeptide comprises the amino acid sequence N-Tyr-Met-Arg-Pro-Val-Tyr-Pro-Thr-Lys-Thr-Phe-Pro-Asn-C , residues 201 through 213 of SEQ ID NO: 69.

~~27~~. 4 (amended) The isolated polypeptide according to claim ~~26~~ 3, wherein the polypeptide [is from about] comprises 788 amino acid residues.

IN THE SPECIFICATION

Please delete and replace the paragraph on page 1, lines 6-16 with the following:

The present invention relates, in general, to a motility stimulating protein and compositions comprising the same. In particular, the present invention relates to a purified form of the protein and peptides thereof, for example, autotaxin (herein alternative referred to as "ATX"); a DNA segment encoding autotaxin; recombinant DNA molecules containing the DNA segment; cells containing the recombinant DNA molecule; a method of producing autotaxin; antibodies to autotaxin;

P4 conclude

and methods of cancer diagnosis and therapy using the above referenced protein or peptides thereof and DNA segments.

Please delete and replace the paragraph on page 14, line 26 through page 15, line 1 with the following:

P5

The present invention also relates to a DNA segment coding for a polypeptide comprising an amino acid sequence corresponding to ATX, or a unique portion of such a sequence (unique portion being defined herein as at least 5, 10, 25, or 50 amino acids). In one embodiment, the DNA segment encodes any one of the amino acid sequences shown in SEQ ID NO:1 to SEQ ID NO:11 and SEQ ID NO:26 to SEQ ID NO:33. Another embodiment uses larger DNA fragments encoding amino acid sequences shown in SEQ ID NO:34, SEQ ID NO: 36 and SEQ ID NO:70. The entire coding region for autotaxin can also be used in the present invention shown in SEQ ID NO:66 through SEQ ID NO:69.

Please delete and replace the paragraphs on page 38, line 30 through page 39, line 25 with the following:

P6

A reverse transcriptase reaction was performed using total or oligo-(dT) purified RNA from A2058 or N-tera 2D1 cells as template and an anti-sense primer from the 5' end of 4C11 (GCTCAGATAAGGAGGAAAGAG; SEQ ID NO: 55). This was followed by one or two PCR amplification of the resultant cDNA using the commercially available kit from Perkin-Elmer and following manufacturer's directions. These PCR reactions utilized nested antisense primers from 4C11 (GAATCCGTAGGACATCTGCTT; SEQ ID NO: 56 and TGTAGGCCAAACAGTTCTGAC; SEQ ID

NO: 57) as well as degenerate, nested sense primers deduced from ATX peptides: ATX-101 (AAYTCIATGCARACIGTITTYGTIG; SEQ ID NO: 58 and TTYGTIGGITAYGGICCIACITTYAA; SEQ ID NO: 59), ATX-103 (AAYTAYCTIACIAAYGTIGAYGAYAT; SEQ ID NO: 60 and GAYGAYATIACICTIGTICCIGGIAC; SEQ ID NO: 61), or ATX-224 (TGYTTYGARYTICARGARGCIGGICCICC; SEQ ID NO: 62). The amplified DNA was then purified from a polyacrylamide gel using standard procedures and ligated into the pCR™ plasmid using the TA cloning kit (Invitrogen Corporation) according to manufacturer's directions.

The 5' RACE kit was utilized to extend the 5' end of ATX cDNA using total RNA from N-tera 2D1 as template and previously obtained sequence as primer (GCTGTCTTCAAACACAGC; SEQ ID NO: 63). The 5' end of the A2058 synthesized protein was obtained by using previously obtained sequence as primer (CTGGTGGCTGTAATCCATAGC; SEQ ID NO: 64) in a reverse transcriptase reaction with total A2058 RNA as template, followed by PCR amplification utilizing the 5' end of N-tera 2D1 sequence as sense primer (CGTGAAGGCAAAGAGAACACG; SEQ ID NO: 65) and a nested antisense primer (GCTGTCTTCAAACACAGC; SEQ ID NO: 63). A2058 DNA encoding ATX is set forth in a SEQ ID NO:68 and the amino acid sequence is provided in SEQ ID NO:69.

Please delete and replace the following paragraph on page 40, lines 25-36 with the following: